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EARLY 19TH CENTURY U.S. HURRICANES: A GIS TOOL

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The majority of U.S. hurricane research is based on data from the past 100 years or so. The official U.S. hurricane record currently extends back to 1851. To better understand these rare but potentially catastrophic events it is important to have the longest possible records. Combining various historical sources, tropical cyclone impacts in the United States have been extended back to the year 1800 (a 25% increase in the U.S. hurricane record) using a GIS tool. The tool is based on ESRI's ArcView GIS 3.2.

Storm impacts in the U.S. and to vessels in adjacent coastal waters are manually input on a geographic map using callouts. Descriptive information such as damage reports, meteorological observations, and ship reports are included. Individual historical sources are treated as separate themes for each storm. Storms are listed chronologically by year. Value is added to the maps with the inclusion of a possible storm track. Estimated storm intensities at landfall are also included. The hurricane GIS tool will be made available on CD-ROM. Updates and expansions are anticipated. The information contained within the GIS tool can be used in hurricane climate research and should be of benefit to those in the insurance, tropical weather, and emergency management fields.